ATTACHMENT B

Cultural Resources Inventory Reports, Part 1
Natomas Levee Improvement Program Landside Improvements Project
Sacramento and Sutter Counties, California

Cultural Resources Inventory Reports, Part I

Natomas Levee Improvement Program
Landside Improvements Project
Sacramento and Sutter Counties, California

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October 2007

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ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
Airport	Sacramento International Airport
APE	area of potential effect
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
cmbs	centimeters below surface
CRHR	California Register of Historical Resources
HPTP	historic property treatment plan
I-5	Interstate 5
I-80	Interstate 80
MLD	Most Likely Descendant
MOA	Memorandum of Agreement
NAHC	Native American Heritage Commission
NCC	Natomas Cross Canal
NCIC	North Central Information Center
NEIC	Northeast Information Center
NEMDC	Natomas East Main Drainage Canal
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NLIP	Natomas Levee Improvement Program
NRHP	National Register of Historic Places
PA	Programmatic Agreement
PGCC	Pleasant Grove Creek Canal
PRC	Public Resources Code
RD	Reclamation District
SAFCA	Sacramento Area Flood Control Agency
SHPO	State Historic Preservation Officer
SRFCP	Sacramento River Flood Control Project
STP	shovel test pit
The Reclamation Board	State of California Reclamation Board
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey

INTRODUCTION

PURPOSE OF THIS REPORT

This report describes the work completed to date to identify cultural resources that have the potential to be affected by the Natomas Levee Improvement Program (NLIP) Landside Improvements Project, which is proposed for implementation by Sacramento Area Flood Control Agency (SAFCA). The proposed project consists of improvements to the levee system in the Natomas Basin and related landscape modifications and drainage and irrigation infrastructure improvements. This work will be completed in phases, starting in 2008 and continuing through 2010. As a local public agency in California, SAFCA must comply with the requirements of the California Environmental Quality Act (CEQA) regarding unique archaeological resources and historical resources as defined in Public Resources Code (PRC) Section 21083.2(g) and California Code of Regulations (CCR) Section 15064.5(a), respectively, and has prepared a draft environmental impact report that meets CEQA requirements. The project requires approvals from the U.S. Army Corps of Engineers (USACE), which must comply with the requirements of Section 106 of the National Historic Preservation Act (NHPA) for assessing impacts of projects on historic properties. Therefore, project implementation also must meet Section 106 requirements. This report provides preliminary information to support Section 106 compliance for the project.

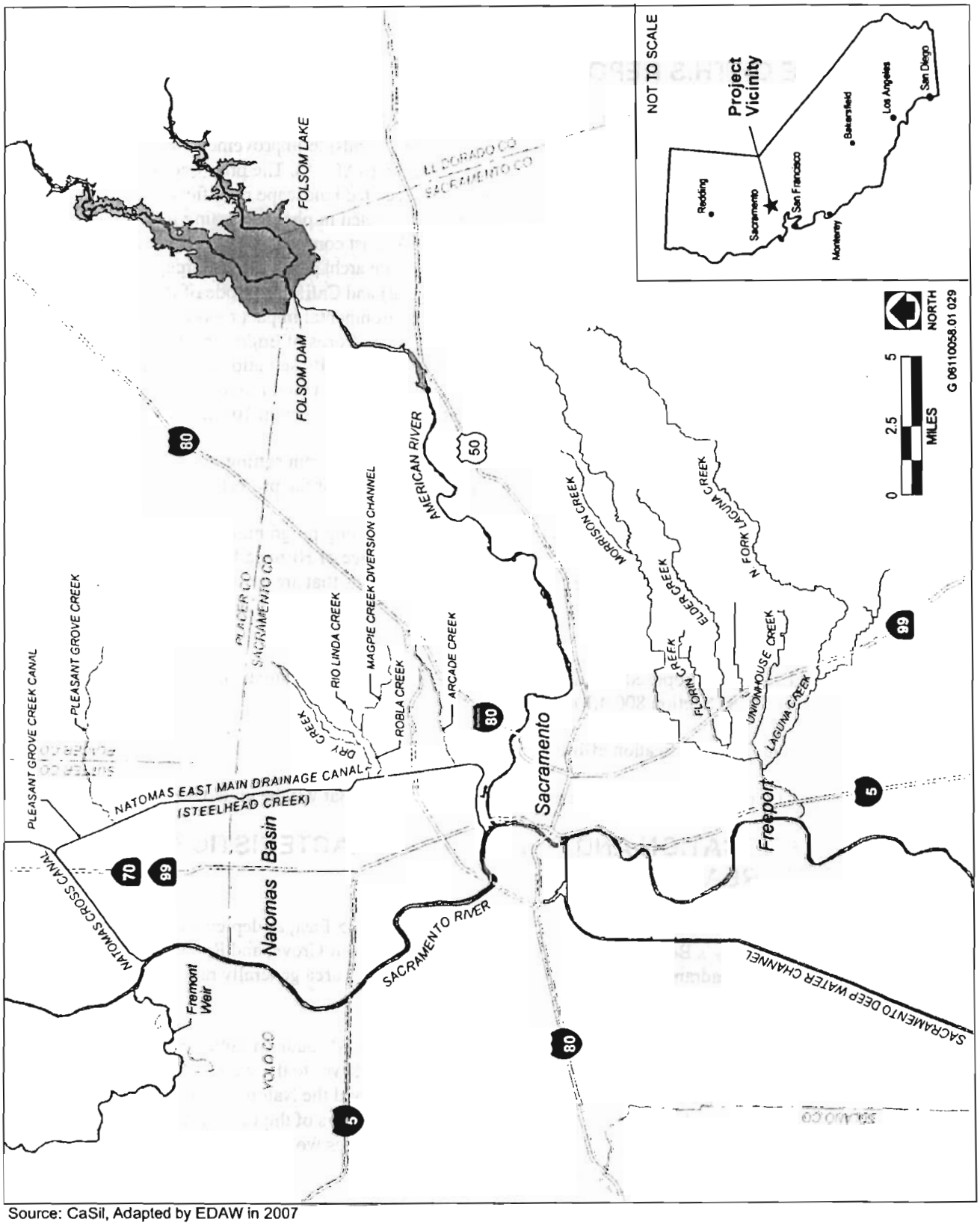
The report provides an overview of the proposed project; presents relevant setting information for the project area; and describes the following components of Section 106 compliance for the project:

- the regulatory context for cultural resources, including an existing programmatic agreement (PA) between USACE, the Bureau of Reclamation, the California State Office of Historic Preservation (SHPO), and the Advisory Council on Historic Preservation (ACHP) for projects that are a part of the federal American River Watershed Project. Additional signatories of the PA include the State of California Reclamation Board (The Reclamation Board) and SAFCA;
- the phased approach proposed for identification of cultural resources, pursuant to 36 Code of Federal Regulations (CFR) Section 800.4(b)(2);
- cultural resources identification efforts performed to date; and
- the scope of remaining identification and management efforts that will be undertaken.

PROJECT LOCATION AND GENERAL CHARACTERISTICS OF THE PROJECT AREA

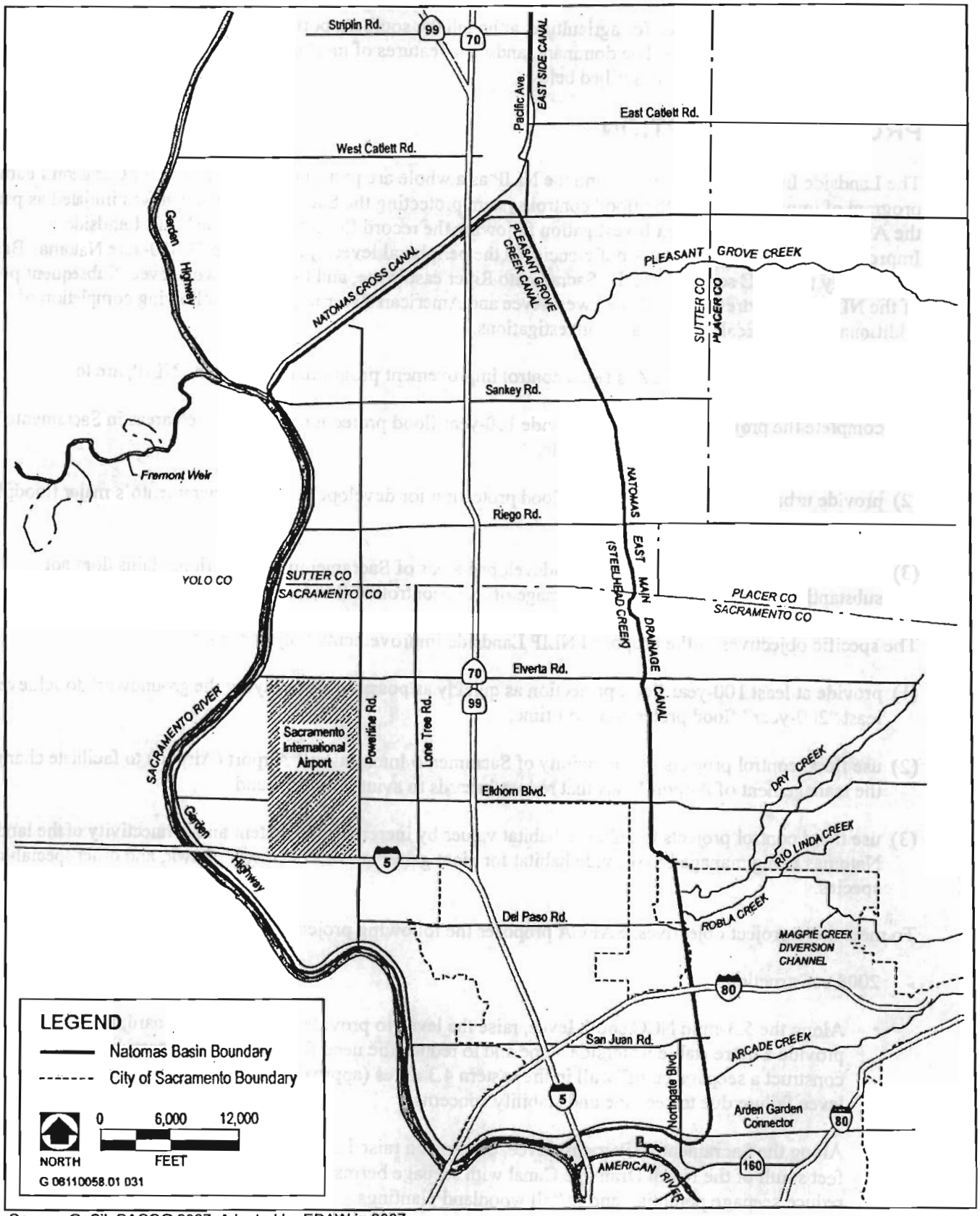
The project area is located in Townships 9-11 North and Ranges 3-5 East, as depicted on the Sacramento East, Sacramento West, Gray's Bend, Taylor Monument, Verona, Pleasant Grove, and Rio Vista U.S. Geological Survey (USGS) 7.5'quadrangle maps. Elevations across the project area generally range from 20 feet to 40 feet (at the top of the levees) above mean sea level.

The project area is in the Natomas Basin in northern Sacramento and southern Sutter Counties, which is bounded by the Natomas Cross Canal (NCC) to the north, the Sacramento River to the west, the Sacramento and American rivers to the south, and the Pleasant Grove Creek Canal (PGGC) and the Natomas East Main Drainage Canal (NEMDC)/Steelhead Creek to the east. The regional and local settings of the Landside Improvements Project are shown in Exhibits 1 and 2, respectively. Most of the project activities would take place in the western portion of the Natomas Basin and along the NCC and PGCC.



Source: CaSil, Adapted by EDAW in 2007

Regional Setting **Exhibit 1**



Source: CaSil; SACOG 2007; Adapted by EDAW in 2007

Local Setting **Exhibit 2**

The project area is mainly used for agriculture, although the southern portion of the area is urbanized and lies within the City of Sacramento. The dominant landscape features of most of the area are elements of Reclamation District (RD) 1000, which are described below.

PROJECT DESCRIPTION

The Landside Improvements Project and the NLIP as a whole are part of the American River Common Features program of improvements to the flood control system protecting the Sacramento area that was initiated as part of the American River Watershed Investigation following the record flood of 1986. The NLIP Landside Improvement Project will address deficiencies in the peripheral levee system of the 53,000-acre Natomas Basin, specifically the NCC south levee, the Sacramento River east levee, and the PGCC west levee. Subsequent phases of the NLIP will address the NEMDC west levee and American River north levee following completion of additional geotechnical and hydraulic investigations.

The overall objectives of SAFCA's flood control improvement program, including the NLIP, are to:

(1) complete the projects necessary to provide 100-year flood protection for developed areas in Sacramento's major floodplains as quickly as possible,

(2) provide urban-standard ("200-year") flood protection for developed areas in Sacramento's major floodplains over time, and

(3) ensure that new development in the undeveloped areas of Sacramento's major floodplains does not substantially increase the expected damage of an uncontrolled flood.

The specific objectives of the proposed NLIP Landside Improvements Project are to:

(1) provide at least 100-year flood protection as quickly as possible while laying the groundwork to achieve at least "200-year" flood protection over time,

(2) use flood control projects in the vicinity of Sacramento International Airport (Airport) to facilitate changes in the management of Airport lands that reduce hazards to aviation safety, and

(3) use flood control projects to enhance habitat values by increasing the extent and connectivity of the lands in Natomas being managed to provide habitat for giant garter snake, Swainson's hawk, and other special-status species.

To meet these project objectives, SAFCA proposes the following project activities:

- 2008 construction

  - Along the 5.3-mile NCC south levee, raise the levee to provide additional freeboard; realign the levee to provide a more stable waterside slope and to reduce the need for removal of waterside vegetation, and construct a seepage cutoff wall in the eastern 4.3 miles (approximately) of the levee to reduce the risk of levee failure due to seepage and stability concerns.

  - Along the Sacramento River east levee, construct a raised adjacent setback levee from the NCC to 1,700 feet south of the North Drainage Canal with seepage berms, relief well, and cutoff walls where required to reduce seepage potential, and install woodland plantings.

  - Construct a new canal designed to provide drainage and associated giant garter snake habitat (referred to as the "GGS/Drainage Canal"), relocate the Elkhorn Canal between the North Drainage Canal and the

Elkhorn Reservoir settling basin ("Elkhorn Reservoir"), and remove a deep culvert from under the levee near the Pumping Plant No. 2 site.

- Recontour the land and create marsh and upland habitat at borrow locations.

- 2009 and 2010 construction

  - Along the Sacramento River east levee south of the limits of the 2008 improvements, construct an adjacent setback levee (raised where needed to provide adequate freeboard) with seepage berms, relief wells, and cutoff walls as required, and install woodland plantings.

  - Along the PGCC west levee, widen the levee, flatten the waterside and landside slopes, and construct seepage berms.

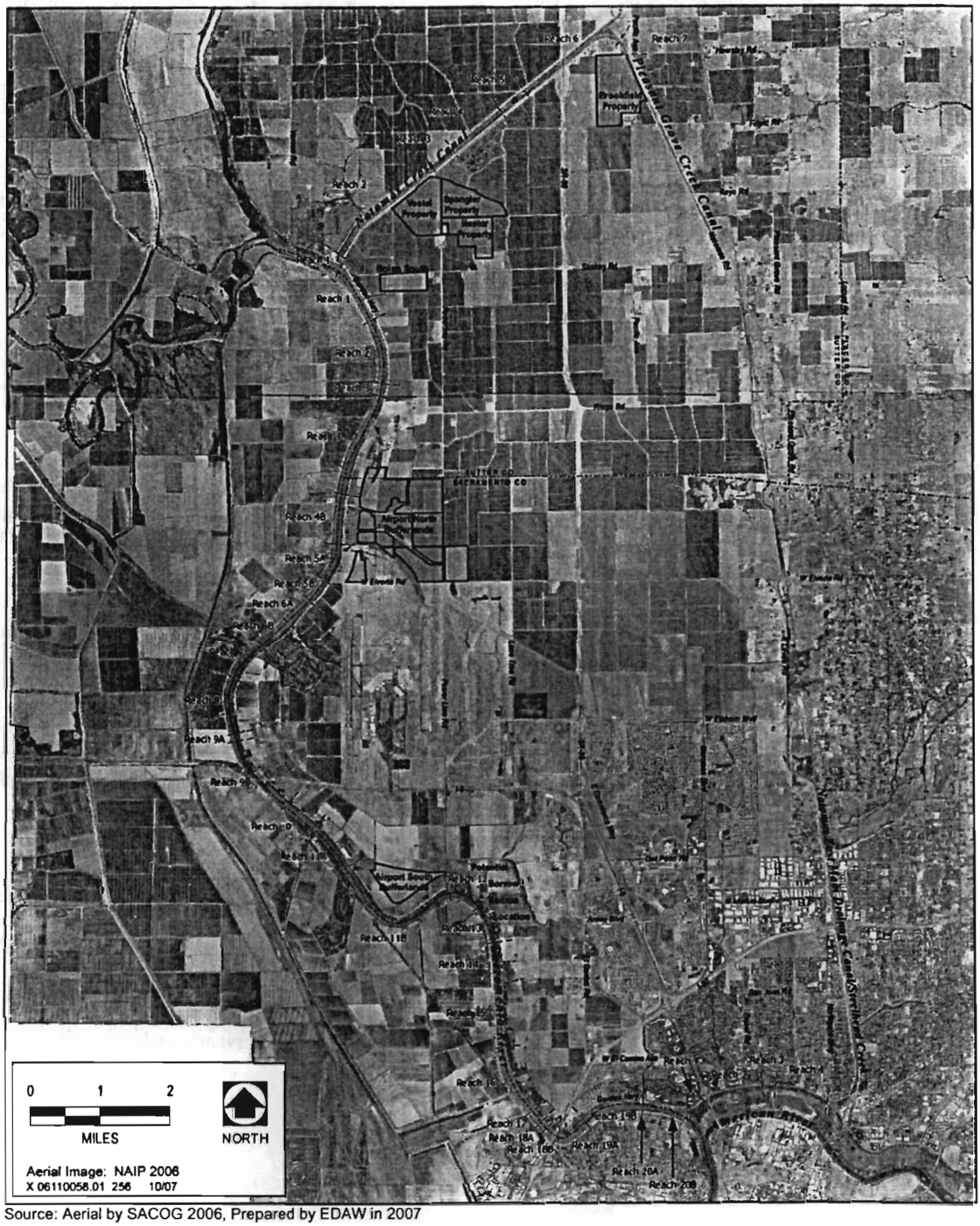
  - Construct a new GGS/Drainage Canal between Elkhorn Reservoir and the West Drainage Canal, improve the West Drainage Canal, relocate the Riverside Canal and the Elkhorn Canal downstream of Elkhorn Reservoir, and reconstruct the Reclamation District 1000 Pumping Plant No. 2.

  - Recontour the land and create marsh and upland habitat at borrow locations.

  - Remove encroachments from the water side of the Sacramento River east levee as needed to ensure that the levee can be certified as meeting the minimum requirements of the National Flood Insurance Program and USACE design criteria, and address Federal Emergency Management Agency requirements for the State Route (SR) 99/70 bridge crossing of the NCC.

Project construction would include a range of soil-disturbing activities in a region that is highly sensitive for cultural resources, particularly prehistoric archaeological sites. Levee improvements would require the excavation of inspection and cutoff wall trenches and extensive soil stripping and grading in the footprint of the adjacent setback levee along the existing Sacramento River east levee and where 100- to 300-foot-wide seepage berms would be constructed along the Sacramento River east levee and the PGCC west levee. Borrow material would be obtained through shallow excavation of several hundred acres of land in the Natomas Basin and excavation of a site northeast of the basin. The new GGS/Drainage Canal would be excavated for approximately 8 miles through the western part of the basin. Project implementation also would alter structures and landscapes associated with Reclamation District (RD) 1000, a resource eligible for listing on the National Register of Historic Places (NRHP).

The approximately 1 million cubic yards of borrow material for the NCC south levee and PGCC west levee improvements would be obtained from land owned by RD 1001 northeast of the Natomas Basin. Approximately 4.4 million cubic yards of soil material would be needed for construction of the levee embankment, berms, and relocated canals along the Sacramento River east levee. About 600,000 cubic yards would be obtained through excavation of the new GGS/Drainage Canal between RD 1000's existing North Drainage Canal north of the Airport and its existing West Drainage Canal southwest of the Airport. SAFCA would obtain the balance of the fill material it needs for the improvements along the Sacramento River east levee from parcels in the Airport bufferlands, land planned for habitat development by The Natomas Basin Conservancy, and nearby privately owned agricultural land (Exhibit 3).



Source: Aerial by SACOG 2006, Prepared by EDAW in 2007

Potential Borrow Areas **Exhibit 3**

BACKGROUND INFORMATION

REGULATORY SETTING

The project is subject to the provisions of CEQA, as well as Section 106 of the NHPA.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA includes provisions that specifically address the protection of cultural resources. CEQA requires consideration of impacts of a project on unique archaeological resources and historical resources. A unique archaeological resource, as defined in PRC Section 21083.2(g), is an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it:

(1) contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;

(2) has a special and particular quality such as being the oldest of its type or the best available example of its type; or

(3) is directly associated with a scientifically recognized important prehistoric or historic event or person.

Section 15064.5(a) of the State CEQA Guidelines generally defines a historical resource as:

(1) a resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the California Register of Historical Resources (CRHR);

(2) a resource included in a local register of historical resources or identified as significant in a historical resource survey; and

(3) any other object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant, provided that the lead agency's determination is supported by substantial evidence.

CALIFORNIA REGISTER OF HISTORICAL RESOURCES

The CRHR includes resources that are listed in or formally determined eligible for listing in the NRHP (see below), as well as some California State Landmarks and Points of Historical Interest (PRC Section 5024.1, 14 CCR Section 4850). Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (State CEQA Guidelines Section 15064.5[a][2]). The eligibility criteria for listing in the CRHR are similar to those for NRHP listing but focus on the importance of the resources to California history and heritage. A cultural resource may be eligible for listing in the CRHR if it:

(1) is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(2) is associated with the lives of persons important in our past;

(3) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(4) has yielded, or may be likely to yield, information important in prehistory or history.

(See 14 CCR Section 4852.)

NATIVE AMERICAN HERITAGE COMMISSION

The Native American Heritage Commission (NAHC) identifies and catalogs places of special religious or social significance to Native Americans and known graves and cemeteries of Native Americans on private lands, and performs other duties regarding the preservation and accessibility of sacred sites and burials and the disposition of Native American human remains and burial items.

NATIONAL HISTORIC PRESERVATION ACT

Section 106 of the NHPA and its implementing regulations (36 CFR 800, as amended in 2004) require federal agencies to consider the potential effects of their proposed undertakings on historic properties. Historic properties are cultural resources that are listed on, or are eligible for listing on, the NRHP (36 CFR 800.16[l]). Undertakings include activities directly carried out, funded, or permitted by federal agencies. Federal agencies must also allow the Advisory Council on Historic Preservation (ACHP) to comment on the proposed undertaking and its potential effects on historic properties. Implementation of the proposed project would require permitting under Section 404 of the Clean Water Act and Section 408 approval from the USACE. Therefore, USACE compliance with Section 106 is required in relation to the proposed project.

SECTION 106 PROCESS

The implementing regulations for Section 106 of the NHPA require consultation with the State Historic Preservation Officer (SHPO), the ACHP, federally recognized Indian tribes and other Native Americans, and interested members of the public throughout the compliance process. The four principal steps are:

- Initiate the Section 106 process (36 CFR Section 800.3).
- Identify historic properties, resources eligible for inclusion in the NRHP (36 CFR Section 800.4).
- Assess the effects of the undertaking to on historic properties within the area of potential effect (APE) (36 CFR Section 800.5).
- Resolve adverse effects (36 CFR Section 800.6).

Adverse effects on historic properties are often resolved through preparation of a memorandum of agreement or PA developed in consultation between the federal agency, the SHPO, Indian tribes, and interested members of the public. The ACHP is also invited to participate. The agreement describes stipulations to mitigate adverse effects on historic properties.

NATIONAL REGISTER OF HISTORIC PLACES

The NRHP listing criteria are as follows (36 CFR Section 60.4):

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

(a) that are associated with events that have made a significant contribution to the broad patterns of our history; or

(b) that are associated with the lives of persons significant in our past; or

(c) that embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(d) that have yielded, or may be likely to yield, information important in prehistory or history.

RURAL HISTORIC LANDSCAPES

The rural historic landscape is a category of resources that is evaluated under the Section 106 process. This resource category is relevant to this project because RD 1000, the local geographic setting of the proposed project, is eligible for NRHP listing as a Rural Historic Landscape District. National Register Bulletin 30 defines a rural historic landscape as a geographical area that historically has been used by people or shaped or modified by human activity, occupancy, or intervention and that possesses a significant concentration, linkage, or continuity of areas of land use, vegetation, buildings and structures, roads and waterways, and natural features. Rural landscapes commonly reflect the day-to-day occupational activities of people engaged in traditional work such as mining, fishing, and various types of agriculture. Often, they have developed and evolved in response to both the forces of nature and the pragmatic need of people to make a living. Landscapes that are small and that have no buildings or structures, such as an experimental orchard, are classified as sites. Most, however, being extensive in acreage and containing a number of buildings, sites, and structures—such as a ranch or farming community—are classified as historic districts. Large acreage and a proportionately small number of buildings and structures differentiate rural historic landscapes from other kinds of historic properties.

National Register Bulletin 30 distinguishes rural historic landscapes from designed landscapes. Rural landscapes usually are not the work of a professional designer and have not been developed according to academic or professional design standards, theories, or philosophies of landscape architecture. These properties possess tangible features, called landscape characteristics, that have resulted from historic human use. In this way, they also differ from natural areas that embody important cultural values but have experienced little modification, such as sites having religious meaning for Native American groups.

EXISTING PROGRAMMATIC AGREEMENT

USACE, the SHPO, the Bureau of Reclamation, and the ACHP in 1991 executed a PA that governs the Section 106 process for implementation of the American River Watershed Project, including constructing levee, channel, and related flood control improvements in the Natomas Basin. The PA covers implementation of the specific elements of the proposed improvements that would involve the USACE as the federal lead agency. Additional signatories of the PA include The Reclamation Board and SAFCA.

The PA is relevant to the present study because it controls the Section 106 process for work within the American River Watershed Project, a flood control program that coincides in part with the proposed project. Furthermore, it acknowledges the following: "the Project may be modified based on public input, congressional authorization, and ongoing negotiations among the primary sponsors." Portions of the proposed project that also coincide with the American River Watershed Project must satisfy the provisions of the PA.

The PA includes procedures for the treatment of indirect and direct impacts of the levee improvements associated with the American River Watershed Project. The executed PA specifies inventory and NRHP evaluation procedures for historic properties, as well as the process for development of Historic Property Treatment Plans (HPTPs). Additionally, the PA details report format and review, participation of interested parties, curation of

recovered materials, and professional qualifications. Mitigation measures may include archaeological documentation, architectural and engineering documentation, and historical documentation, following standards and guidelines promulgated by the Secretary of the Interior.

NATURAL SETTING

The geological information presented here is taken from SAFCA's Environmental Impact Report on Local Funding Mechanisms for Comprehensive Flood Control Improvements for the Sacramento Area (SAFCA 2007).

The project area lies in the Sacramento Valley portion of the Great Valley Geomorphic Province. The Great Valley is a large valley trending northwest-southeast that is bounded by the Sierra Nevada to the east and south, the Coast Ranges to the west, and the Klamath Mountains to the north. The Great Valley is drained by the Sacramento and San Joaquin Rivers, which join and flow out of the Great Valley province through San Francisco Bay. This geomorphic province is an asymmetric trough approximately 400 miles long and 50 miles wide that is characterized by a relatively flat alluvial plain made up of a deep sequence of sediment deposits from Jurassic to Recent age. The sediments in the Great Valley vary between 3 and 6 miles in thickness and were derived primarily from erosion of the Sierra Nevada to the east, with lesser material fro the Coast Ranges to the west. The eastern edge of the Sacramento Valley is flanked by uplifted and tilted sedimentary strata that overlie rocks of the Foothills Metamorphic Belt and are in turn overlain on the west by younger alluvium.

The Sacramento Valley has been a depositional basin throughout most of the late Mesozoic and Cenozoic time. A vast accumulation of sediments was deposited during cyclic transgressions and regressions of a shallow sea that once inundated the valley. Overlying the thick sequence of sedimentary rock units that form the deeply buried bedrock units in the mid-basin areas of the valley are Late Pleistocene and Holocene (Recent) alluvial deposits, consisting of reworked fan and stream materials that were deposited by streams prior to the construction of the existing flood control systems. The youngest geomorphic features in the area are low floodplains, which are found primarily along the Sacramento and American Rivers. The natural floodplains of these rivers are very wide in this area because the land is relatively flat. These major drainage ways were originally confined within broad natural levees sloping away from the rivers or streams. The natural levees formed through the deposition of alluvium during periods of flooding. As flood waters lost energy, the coarser materials settled out nearest the rivers and streams, forming the natural levees and sand bars in the vicinity of the river channel. The finer material was carried in suspension farther from the rivers or streams, and settled out in quiet water areas such as swales, abandoned meander channels, and lakes. However, because the streams have meandered and reworked the previously deposited sediments, extreme variations in material types may be found over a limited distance or depth.

Flanking the Recent alluvial deposits are late Pleistocene alluvial fan and terrace deposits of the Modesto and Riverbank Formations (Helley and Harwood 1985). Stream terrace deposits, mapped as the Modesto Formation, are higher in elevation and older than floodplain sediments. Before the construction of the existing levees, these stream terraces were occasionally flooded, but only small amounts of sediment were deposited during flood events. The lower fan terraces of the Riverbank Formation are higher in elevation and older than stream terraces, and were only rarely flooded.

The Natomas Basin is situated within the climatic band classified as the Lower Sonoran Zone. The climatic pattern is characterized as Mediterranean, with cool, wet winters and hot, dry summers. Locally, this pattern consists of approximately 17 inches of annual rainfall, high summer temperatures, and low humidity. The dominant vegetative communities in this area are prairie grasslands and tule marshes, with some areas of riparian woodland. Valley oak (*Quercus lobata*), cottonwood (*Populus fremontii*), sycamore (*Platanus racemosa*), and willow trees (*Salix* spp.) once grew on the verge of streams and rivers. Tule marshes included stands of tules, cattails, sedges, rushes, and clumps of willow trees.

Faunal species that frequented the prehistoric prairie grasslands and tule marshes included mule deer (*Odocoileus hemionus*), tule elk (*Cervus elaphus*), antelope (*Antilocapra americana*), weasel (*Mustela frenata*), river otter (*Lutra canadensis*), raccoon (*Procyon lotor*), and beaver (*Castor canadensis*). Migratory waterfowl, such as geese (*Branta canadensis*) and swans (*Olor* sp.), passed through during winter, joining resident white pelicans (*Pelecanus erythrorhynchus*), great blue and black-crowned herons (*Ardea herodias*, *Nycticorax nycticorax*), ibis (*Plegadis guarauna*), cranes (*Grus canadensis*), cormorants (*Phalacrocorax* sp.), and eagles (*Haliaetus leucocephalus*). Badgers (*Taxidea taxus*), coyotes (*Canis latrans*), skunks (*Mephitis mephitis*), jackrabbits (*Lepus californicus*), and cottontail rabbits (*Sylvilagus audubonii*) inhabited higher ground.

Within the waterways, chinook salmon (*Oncorhynchus tshawytscha*), rainbow trout (*Salmo gairdneri*), Pacific lamprey (*Lampetra tridentate*), and white sturgeon (*Acipenser transmontanus*) seasonally joined the other fish species indigenous to the area. Predators such as mountain lions (*Felis concolor*), grizzly bears (*Ursus americanus*), wolves (*Canis lupus*), kit fox (*Vulpes macrotis*), and bobcats (*Lynx rufus*) also roamed the area (Moratto 1984).

PREHISTORIC SETTING

PALEO-INDIAN AND LOWER ARCHAIC PERIODS

The earliest well-documented entry and spread of humans into California occurred at the beginning of the Paleo-Indian Period (10;000–6000 B.C.). Social units are thought to have been small and highly mobile. Known occupation sites have been identified within the contexts of ancient pluvial lake shores and coastlines, where characteristic hunting implements, such as fluted projectile points and chipped stone crescent forms, have been found. Prehistoric adaptations over the ensuing centuries have been identified in the archaeological record by numerous researchers working in the area since the early 1900s, as summarized by Fredrickson (1974) and Moratto (1984). Because of its plentiful resources and temperate climate, the Central Valley was well populated prehistorically and served as the location for some of the more substantial village sites known in California.

Beardsley (1948), Heizer and Fenenga (1939), and others conducted numerous studies that form the core of our early understanding of upper Central Valley archaeology. Little has been found archaeologically that dates to the Paleo-Indian or Lower Archaic (6000–3000 B.C.) time periods. However, archaeologists have recovered much data from sites occupied by the Middle Archaic period. The lack of discovery of sites from earlier periods may be the result of high sedimentation rates that have left the earliest sites deeply buried and inaccessible.

MIDDLE ARCHAIC, UPPER ARCHAIC, AND EMERGENT PERIODS

During the Middle Archaic Period (3000–1000 B.C.), the broad regional patterns of foraging subsistence strategies gave way to more intensive procurement practices. Subsistence economies were more diversified, possibly including the introduction of acorn processing technology. Human populations were growing and occupying more diverse settings. Permanent villages occupied year-round were established, primarily along major waterways. The onset of status distinctions and other indicators of growing sociopolitical complexity mark the Upper Archaic Period (1000 B.C.–A.D. 500). Exchange systems become more complex and formalized. Evidence of regular, sustained trade between groups was seen for the first time.

Several technological and social changes characterized the Emergent Period (A.D. 500–1800). The bow and arrow were introduced, ultimately replacing the dart and atlatl. Territorial boundaries between groups became well established. It became increasingly common that distinctions in an individual's social status could be linked to acquired wealth. Exchange of goods between groups became more regularized with more goods, including raw materials, entering into the exchange networks. In the latter portion of this period (A.D. 1500–1800), exchange relations became highly regularized and sophisticated. The clamshell disk bead became a monetary unit for exchange, and increasing quantities of goods moved greater distances. Specialists arose to govern various aspects of production and exchange.

The Middle and Upper Archaic and Emergent Periods are further broken down under the Central California Taxonomic System. These three time periods are well represented in archaeological assemblages in the vicinity of the project area. The assemblages are discussed in detail in Bennyhoff and Fredrickson (1969) and Moratto (1984) and are summarized here.

The **Windmiller Pattern (3000–500 B.C.)** of archaeological assemblages included an increased emphasis on acorn use and a continuation of hunting and fishing activities. Ground and polished charmstones, twined basketry, baked-clay artifacts (frequently used as a substitute for stone in the Central Valley), and worked shell and bone were hallmarks of Windmiller culture. Widely ranging trade patterns brought goods in from the Coast Range and trans-Sierran sources as well as closer trading partners. Perforated charmstones were associated with some burials. Mano and metate and small mortars were used but were rare.

Distinctive burial practices (ventrally extended, oriented westward) identified with the Windmiller Pattern also appeared in the Sierra Nevada foothills, indicating possible seasonal migration into the Sierra Nevada. The specific orientation of burials reinforces the idea that summers were spent in the Sierra Nevada and winters in the Central Valley. Men were generally buried in separate areas, in deeper graves, and with more artifacts than women, possibly indicating a higher social status. However, the rich offerings found with some women and children suggest that wealth also followed lineages or some sort of social patterns as well.

The **Berkeley Pattern (200 B.C.–A.D. 700)** represented a greater reliance on acorns as a food source than was seen previously. Distinctive stone and shell artifacts distinguished it from earlier or later cultural expressions, and may indicate the arrival and spread of ancestral Plains Miwok from the Bay Area region. Burials were predominantly placed in a tightly flexed position and frequently included red ochre. Minimally shaped mortar and pestle technology was much more prevalent than mano/metate. Nonstemmed projectile points become more common.

The **Augustine Pattern (A.D. 700–1800)** was marked by increasing populations resulting from more intensive food procurement strategies, and also by a marked change in burial practices and increased trade activities. Intensive fishing, hunting and gathering, complex exchange systems, and a wider variety in mortuary patterns were all hallmarks of this period. Mortars and pestles were more carefully shaped, and bow-and-arrow technology was present. Fishing implements became more common, trade increased, and cremation was used for some higher-status individuals. A well-developed ceramic industry has been noted at a site near Sloughhouse, east of Sacramento.

ETHNOGRAPHIC SETTING

The project area is situated within the lands traditionally occupied by the Nisenan, or Southern Maidu. The language of the Nisenan, which includes several dialects, is classified within the Maiduan family of the Penutian linguistic stock (Kroeber 1925). The western boundary of Nisenan territory was the western bank of the Sacramento River and the area between present-day Sacramento and Marysville. In the Sacramento Valley, the triblet, consisting of a primary village and a few satellite villages, served as the basic political unit (Moratto 1984). Valley Nisenan territory was divided into three triblet areas, each populated with several large villages (Wilson and Towne 1978), generally located on low, natural rises along streams and rivers or on slopes with a southern exposure. One important village, *Pusune*, near Discovery Park, appears to have been recorded as CA-SAC-26. Other villages—*Wollok, Leuchi, Wishuna, Totola,* and *Nawrean*—were located east of the confluence of the Feather and Sacramento Rivers, near the northwestern portion of the Natomas Basin.

Nisenan houses were domed structures covered with earth and tule or grass and measured 10–15 feet in diameter. Brush shelters were used in the summer and at temporary camps during food-gathering rounds. Larger villages often had semisubterranean dance houses that were covered in earth and tule or brush and had a central smoke hole at the top and an east-facing entrance, as well as smaller sweathouses. Another common village structure was a granary, which was used for storing acorns (Wilson and Towne 1978). Valley Nisenan people followed a

seasonal round of food gathering, as did most California Indians. The wide variety of food resources available was exploited year round, but hunting and gathering activities were at their most intense in late summer and early fall. Food staples included acorns, buckeyes, pine nuts, hazelnuts, various roots, seeds, mushrooms, greens, berries, and herbs. Game, roasted, baked, or dried, included mule deer, elk, antelope, black bear, beaver, squirrels, rabbits, fish, shellfish, and other small animals and insects (Wilson and Towne 1978). Seasonal harvests were carried out by families or the larger community, engendering social behavior such as sharing, trading, and conducting ceremonies.

Euro-American contact with the Nisenan began with infrequent excursions by Spanish explorers and Hudson Bay Company trappers traveling through the Sacramento and San Joaquin Valleys in the early 1800s. In general, Nisenan lifeways remained stable for centuries until the early to middle decades of the 19th century. With the coming of Russian trappers and Spanish missionaries, cultural patterns began to be disrupted as social structures were stressed. An estimated 75% of the Valley Nisenan population died in the malaria epidemic of 1833. With the influx of Europeans during the Gold Rush era, the population was further reduced as a result of disease and violent relations with the miners. However, today the Maidu are reinvesting in their traditional culture and, through newfound political, economic, and social influence, now constitute a growing and thriving native community in California.

HISTORIC SETTING

EARLY EXPLORATION

Although Russian trappers and traders associated with the Hudson's Bay Company likely traveled through Sacramento, Sutter, and Yuba Counties during earlier years, the first well-documented European exploration of the general region occurred in 1808, when Spanish explorer Gabriel Moraga led an expedition from Mission San Jose to the northern Sacramento Valley (Hoover, Rensch, and Rensch 1966). The earliest Euro-American settlement coincided with the establishment of land grants by the Mexican government in the 1840s. John A. Sutter obtained the first such grant in the region in 1841. Sutter's New Helvetia Rancho encompassed lands on the east bank of the Feather and Sacramento Rivers within the project area (Beck and Haase 1974).

MINING

Although there are no records of large-scale mining having been conducted in the project area or in the immediate vicinity, the industry had considerable indirect effects on historical developments in the region. The diggings and mines in the Sierra Nevada foothills dramatically increased economic activity in the region, leading to increased prosperity and the rise of larger and more numerous support industries, such as cattle ranches and farms. In addition, sediments washing into the Central Valley watercourses, including the Feather, Sacramento, and American Rivers, had a negative impact on water quality and on the scale and frequency of seasonal flooding.

Hydraulic mining, first conducted in Nevada in 1852, was the most cost-effective means of recovering placer gold from deeply buried gravels along and near river and stream channels. To access these deeply buried deposits, miners used streams of water under high pressure to wash away sediments and gravels. The sands and gravels were passed through sluices that separated out the placer gold. Silt and sand washed into nearby creeks, streams, and rivers, raising watercourse beds, clogging the channels, and generally polluting the waters. Between 1849 and 1909, 195 million cubic meters of mining debris entered the channels of the American River basin. The deposition of silt in the rivers resulted in the raising of the riverbeds and increased flooding. After 1861, catastrophic floods became more common, prompting the development of a levee system and beginning the process of land reclamation for agricultural purposes.

Construction of a railroad was a natural outgrowth of Sacramento's expansion and the need to deliver supplies to the California foothills. The railroad was completed by February 1856. The first rail line ran to the town of Folsom, where at least 21 different wagon trains then carted goods from the train to outlying areas as far away as Carson City, Nevada. The Central Pacific Railroad bought the Sacramento Valley Railroad in 1865 and added its

facilities to those already being built for the Transcontinental Railroad. The Central Pacific and its successor, the Southern Pacific Railroad, became the major industry in Sacramento after 1863. It is estimated that early in its history, the railroad employed 20–30% of salaried employees in Sacramento (Historic Environment Consultants 1998).

AGRICULTURE AND FLOOD CONTROL

GENERAL

Agriculture and ranching were the primary industries in the present-day Sacramento and Sutter County region during the historic period. Regional ranching originated on the New Helvetia rancho in the early 1840s. The Gold Rush precipitated growth in agriculture and ranching, as ranchers and farmers realized handsome returns from supplying food and other goods to miners. Frequent floods plagued the residents of the region, however, and posed a significant threat to the viability of agricultural interests and further settlement.

Initial efforts at flood control were usually uncoordinated and consisted of small levees and drains constructed by individual landowners. These features proved insufficient to protect cultivated land, and much of the project area flooded regularly (Dames & Moore 1994a). In 1861, the California Legislature created the State Board of Swampland Commissioners to reclaim swamp and overflow lands. The State Board of Swampland Commissioners established 32 districts that attempted to enclose large areas with natural levees. Lack of cooperation among the landowners in the districts led to chronic financial crises. When the legislature terminated the State Board of Swampland Commissioners in 1866, responsibility for swamp and overflow land fell to the individual counties. Many counties offered incentives to landowners for reclaiming agriculturally unproductive land. If a landowner could certify that he had spent at least $2 per acre in reclamation, the county would refund the purchase price of the property to the owner. Speculators took advantage of this program and a period of opportunistic and often-irrational levee building followed (Thompson 1958).

In the early part of the 20th century, the state legislature established The Reclamation Board to exercise jurisdiction over reclamation districts and levee plans. That year, the state approved and began implementation of the Sacramento River Flood Control Project (SRFCP). The ambitious project included the construction of levees, weirs, and bypasses along the river to channel floodwaters away from population centers. Under the SRFCP, new reclamation districts were created, including RD 1000, consisting of approximately 55,000 acres in the Natomas Basin. RD 1000 was largely controlled by the Natomas Company, which had access to more money than any individual landowner. The Natomas Company was formed in 1851 in Sacramento County to supply water for placer mining and irrigation. It later became involved in dredging for gold and expanded its water supply business. The Natomas Company became involved in land reclamation in part as a rebuttal of criticism that farmland was being destroyed by the company's gold dredging activities (Dames & Moore 1994a).

RD 1000 RURAL HISTORIC LANDSCAPE DISTRICT

The infrastructure of RD 1000 (Exhibit 4) was completed in the 1920s. It includes levees, drainage canals, pumps, irrigation systems, agricultural fields, and roads, as well as remnant natural features. The originally constructed features included levees and exterior drainage canals, an interior drainage canal system, nine pumping plants, a series of levee and interior roads, and unpaved rights-of-way between the farm fields.

Previous efforts to document and mitigate impacts on elements of RD 1000 are relevant to the proposed project. The RD 1000 area has been identified as eligible for inclusion in the NRHP as a Rural Historic Landscape District. The evaluation process was conducted both to determine the NRHP eligibility of the district and to evaluate whether the district would be significantly affected by flood control projects planned and subsequently implemented by the USACE as part of the American River Watershed Project (Dames & Moore 1994a). The "determination of effects" statement concluded that the USACE projects would adversely affect both contributing

and noncontributing elements of the Rural Historic Landscape District by allowing for greater development to occur in the region. Mitigation measures were recommended and adopted. These consisted of Historic American Engineering Record documentation, which was prepared by Peak & Associates (1997); videotapes of historic properties; and a list of repositories where copies of the information would be made available to the public.

Dames & Moore determined that RD 1000 appears to be eligible for listing as a Rural Historic Landscape District at the state level of significance for the period from 1911 to 1939 under Criterion A. The area of significance was listed as reclamation and the historical context was listed as the flood control and reclamation of the Sacramento River basin within the SRFCP as an important part of the history of reclamation and flood control. The district retains much of its historic integrity, including location design, setting, materials, workmanship, feeling, and association. The contributing and noncontributing elements of the district were defined as part of this effort. Contributing elements were described as follows:

- **Drainage System:** East Levee, River Levee, Cross Canal Levee; Natomas East Main Drainage Canal; Cross Canal; Pleasant Grove Canal; Pumping Plants No. 1-A, 2, and 3; the canal connecting Pumping Plant No. 3 and the West Drainage Canal, North Drainage Canal, East Drainage Canal, West Drainage Canal, Natomas Main Drainage Canal, and the drainage ditches within the areas of contributing large-scale land patterns.
- **Road System:** Garden Highway from Orchard Lane north to the Cross Canal; East Levee/Natomas Road; Sankey Road; Riego Road; Elverta Road; Elkhorn Boulevard from Garden Highway to the western boundary of the Sacramento Airport; Del Paso Road from Powerline Road to its intersection with Interstate 5 (I-5); San Juan Road from Garden Highway to its intersection with I-5; Powerline Road; El Centro Road from north of Interstate 80 (I-80) to its intersection with Bayou Way; and the right-of-way roads within fields in the areas of contributing large scale land patterns.
- **Large-Scale Land Patterns:** Land area that consists of open fields formed by the intersection of the canals and roads in the area bounded as follows: west of the East Levee; west of Sorrento Road; north of Del Paso Road between the East Levee and I-5, west of I-5 from its intersection with Del Paso Road to its intersection with I-80; north of I-80 from its intersection with I-5 to the River Levee; east of the River Levee; and south of the Cross Canal Levee.

Noncontributing resources include parts of the drainage system (some pumping plants and associated branch canals); parts of the road system; some large-scale land patterns (the area bounded by Sorrento Road to the east levee, south of Del Paso Road between I-5 and the east levee, south of I-80, and the Airport); and some land uses, vegetation, boundary demarcations, buildings, and structures such as those more closely associated with agriculture than reclamation, municipal structures, commercial structures, and electric power lines.

STUDY METHODOLOGY

This section describes the methods used to date to identify cultural resources in the study area and to satisfy the relevant statutory and regulatory framework. The methodology is consistent with state and federal standards, was developed to meet the requirements of CEQA and NHPA Section 106, and is consistent with the PA. All study elements described in this section have been completed by archaeologists that meet the Secretary of the Department of the Interior's professional qualification standards.

The cultural resource inventory efforts will be completed in phases, as access to project lands is acquired. A phased identification process is specifically authorized at 36 CFR Section 8004.2(b)(2):

> Where alternatives under consideration consist of corridors or large land areas, or where access to properties is restricted, the agency official may use a phased process to conduct identification and evaluation efforts. The agency official may also defer final identification and evaluation of historic properties if it is specifically provided for in a memorandum of agreement executed pursuant to § 800.6, a programmatic agreement executed pursuant to § 800.14 (b), or the documents used by an agency official to comply with the National Environmental Policy Act pursuant to § 800.8. The process should establish the likely presence of historic properties within the area of potential effects for each alternative or inaccessible area through background research, consultation and an appropriate level of field investigation, taking into account the number of alternatives under consideration, the magnitude of the undertaking and its likely effects, and the views of the SHPO/THPO and any other consulting parties. As specific aspects or locations of an alternative are refined or access is gained, the agency official shall proceed with the identification and evaluation of historic properties in accordance with paragraphs (b)(1) and (c) of this section.

The following sections describe background research conducted to identify existing resources and sensitivity of resources, completed identification efforts, and future work required under the phased approach.

NATIVE AMERICAN CONTACT PROGRAM

EDAW sent a letter of inquiry to the NAHC on June 12, 2007, asking for information or concerns regarding the project area, as well as a list of individuals or organizations that might have information or concerns regarding the project area (Appendix A). On June 19, 2007, Debbie Pilas-Treadway of the NAHC responded and indicated that no known sites were found in the Sacred Lands File that were located within the project area or in the immediate vicinity. Ms. Pilas-Treadway also provided EDAW with a list of individuals who could be contacted concerning cultural resources in the project area. These individuals were sent contact letters on June 21, 2007, with information regarding the proposed project and a request for any information they might provide or concerns that they might have about the project. No written responses were received; therefore, follow-up phone calls were made on July 9, 2007. Only one individual, Rose Enos (referred to by the NAHC as "Miwok/Maidu"), answered. Ms. Enos expressed general concern regarding avoidance of burial sites and asked to be contacted if work is conducted on such sites. Messages were left for the remaining people on the contact list; however, no response from any of these individuals has been received. In addition, EDAW contacted Randy Yonemura of the Ione Band of the Miwok to request information on areas of concern. Mr. Yonemura led an EDAW archaeologist on a field visit of the project area and provided anecdotal information on areas of potential Native American burials.

INFORMATION CENTER RECORDS SEARCHES

Records searches were conducted in stages in 2006 and 2007 for different portions of the proposed project footprint. Most of the searches were conducted at the North Central Information Center (NCIC) of the California Historical Resources Information System, located at California State University, Sacramento. The NCIC records search covered portions of the project area in Sacramento County. Records searches were also conducted at the

Northeast Information Center (NEIC), which maintains cultural resource records for Sutter County. The searches at both facilities included, but were not necessarily restricted to, an examination of the following resources:

- The State Office of Historic Preservation's *Historic Property Directory and Determination of Eligibility* (2006)
- The National and California Registers of Historic Places (2006)
- *California Inventory of Historic Resources* (1976 and updates)
- *Historic Properties Directory* (2006)
- *California Historical Landmarks* (1996 and updates)
- *California Points of Historical Interest* (1992 and updates)
- *Caltrans Local Bridge Survey* (1987)
- Various historic maps

The NEIC and NCIC reported that several cultural resource inventories have been conducted within the project area. These are listed in Tables 1 and 2, respectively.

Table 1
Previous Cultural Resources Surveys Conducted in the Project Area in Sutter County

NEIC Report No.	Author(s)	Title	Date
1135	Bass, H. O.	*Department of Transportation Negative Archaeological Survey Report: State Route 99*	1983
7173	Cultural Resources Unlimited	*A Cultural Resources Study for Sutter Bay Project, Sutter County, California*	1992
7175	Cultural Resources Unlimited	*A Cultural Resources Study for Sutter Bay Project Highway 99/70 Interchange/Crossroad Improvements Sutter County, California*	1992
3469B	Dames & Moore	*Rural Historic Landscape Report for Reclamation District 1000 for the Cultural Resources Inventory and Evaluations for the American River Watershed Investigation, Sacramento and Sutter Counties, California*	1996
5777	Dames & Moore	*Historic Property Treatment Plan for Reclamation District 1000 Rural Historic Landscape District for the Cultural Resources Inventory and Evaluations for the American River Watershed Investigation, Sacramento and Sutter Counties, California*	1994a
4197	Dames & Moore	*Archaeological Inventory Report, Natomas Locality, Cultural Resources Inventory and Evaluation, American River Watershed Investigation, El Dorado, Placer, Sacramento, and Sutter Counties, California*	1994b
6892	Derr, E. H.	*American Basin Fish Screen and Habitat Improvement Project, Feasibility Study: Alternative 1C, 2C, 3, Sacramento and Sutter Counties, California*	2002
6944	Ebasco Environmental	*Cultural Resources Survey of the Sacramento Energy Project Sacramento County, California*	1992
5655	Egherman, R., and B. Hatoff	*Roseville Energy Facility Cultural Resources Appendix J-1 of Application for Certification*	2002
6945	Foster, J. W., and D. G. Foster	*An Archaeological Survey of the South Sutter Industrial Center Property, Sutter County, California*	1992
2987	Jensen, P.	*Historic Properties Survey Report for the Proposed Fifield Road at Pleasant Grove Creek Canal, Caltrans District 3, Sutter County, California*	1999
6893	Kaptain, N.	*Historic Property Survey Report for the State Route 99/Riego Road Interchange Project Sutter and Sacramento Counties*	2005
4658	Nelson, W. J., M. Carpenter, and K. L. Holanda	*Cultural Resources Survey for the Level (3) Communications Long Haul Fiber Optics Project. Segment WPO4: Sacramento to Redding*	2000
3469A	Peak & Associates	*Historic American Engineering Record Reclamation District 1000 HAER No. CA-187*	1997
1141	Wilson, K.L.	*Sacramento River Bank Protection Unit 34 Cultural Resources Survey Final Report*	1978

Note: NEIC = Northeast Information Center
Source: Data provided by the Northeast Information Center in 2007

Table 2
Previous Cultural Resources Surveys Conducted in the Project Area in Sacramento County

NCIC Report No.	Author(s)	Title	Date
–	Banek, B.	*An Archaeological Reconnaissance of the South Natomas Area for the River Bank Holding Company, Sacramento County, California*	1982
4188	Billat, L. B.	*Nextel Communications Wireless Telecommunications Service Facility—Sacramento County*	2001
–	Bouey, P. D.	*Cultural Resources Inventory and Evaluation: Sacramento River Bank Protection (Unit 44) Project*	1989
4206, part 1	Bouey, P. D., and R. Herbert	*Intensive Cultural Resources Survey and National Register Evaluation: Sacramento Urban Area Flood Control Project*	1990
6519	Bouey, P., J. Berg, J., and C. A. Hunter	*Cultural Resources Test Excavations, Sacramento Urban Area Flood Control Project, Sacramento County, California*	1991
4457	California Department of Transportation	*Negative Historic Property Survey Report for the Proposed Installation of Automatic Vehicle Census Systems on Interstate 80 East of the West El Camino Over-Crossing and on Highway 51 East of the "E" Street Ramps, Sacramento County, California*	2003
4194	Chavez, D., L. H. Shoup, C. Desgrandchamp, and W. G. Slater	*Cultural Resources Evaluations for the North Natomas Community Plan Study Area, Sacramento, California*	1984
4193	County of Sacramento Department of Environmental Review and Assessment	*Draft Environmental Impact Report for Teal Bend Golf Course Use Permit*	1995
4190	CRS Archaeological Consulting and Research Services	*Sacramento Metro Airport Airmail Facility*—letter report	1988
3409	Cultural Resources Unlimited	*A Cultural Resources Study for Sacramento Area Flood Control Agency Borrow Sites Project Sacramento County*	1993
4463	Cultural Resources Unlimited	*A Cultural Resources Survey and Archival Review for the Arden-Garden Connector Project Sacramento County, California*	1992
3469B	Dames & Moore	*Rural Historic Landscape Report for Reclamation District 1000 for the Cultural Resources Inventory and Evaluations for the American River Watershed Investigation, Sacramento and Sutter Counties, California*	1996
4197	Dames & Moore	*Archaeological Inventory Report, Natomas Locality, Cultural Resources Inventory and Evaluation, American River Watershed Investigation, El Dorado, Placer, Sacramento, and Sutter Counties, California*	1994b
5777	Dames & Moore	*Historic Property Treatment Plan for Reclamation District 1000 Rural Historic Landscape District for the Cultural Resources Inventory and Evaluations for the American River Watershed Investigation, Sacramento and Sutter Counties, California*	1996
4195	Derr, E.	*Cultural Resources Report: North Natomas Comprehensive Drainage Plan; Levee Improvements, Canal Widening and Additional Pumping Capacity*	1997
4466	Derr, E.	*Historic Resource Evaluation Report for the Arden-Garden Connector Project CT-03-30274.B1 Sacramento County, California*	1983
6892	Derr, E. H.	*American Basin Fish Screen and Habitat Improvement Project, Feasibility Study: Alternative 1C, 2C, 3, Sacramento and Sutter Counties, California*	2002
6944	Ebasco Environmental	*Cultural Resources Survey of the Sacramento Energy Project Sacramento County, California*	1992

Table 2
Previous Cultural Resources Surveys Conducted in the Project Area in Sacramento County

NCIC Report No.	Author(s)	Title	Date
5655	Egherman, R., and B. Hatoff	*Roseville Energy Facility Cultural Resources Appendix J-1 of Application for Certification*	2002
3489A	Far Western Anthropological Research Group	*Report on the First Phase of Archaeological Survey for the Proposed SMUD Gas Pipeline Between Winters and Sacramento Yolo and Sacramento Counties, California*	1993
3489B	Far Western Anthropological Research Group	*Addendum to the Report on the First Phase of Archaeological Survey for the Proposed SMUD Gas Pipeline Between Winters and Sacramento Yolo and Sacramento Counties, California*	1993
4206, part 2	Far Western Anthropological Research Group	*Intensive Cultural Resources Survey and National Register Evaluation: Sacramento Urban Area Flood Control Project*—letter report to SHPO	2005
–	Foster, J. W.	*A Cultural Resource Investigation of the Blue Oaks Skilled Nursing Facility Site Auburn, California*	1995
–	Glover, L. C., and P. D. Bouey	*Sacramento River Flood Control System Evaluation, Mid-Valley Area Cultural Resources Survey, Colusa, Sacramento, Sutter, Yolo, and Yuba Counties, California*	1990
4449	Herbert, R. F.	*Report on the National Register Eligibility of the Sacramento River Docks Building 37 McClellan Air Force Base, Sacramento, California*	1995
5803	Herbert, R. F.	*Report on the National Register Eligibility of the Sacramento River Dock Complex including Building 4635 (Dock) and Building 4637 (Warehouse) McClellan Air Force Base, Sacramento, California*	1995
4202	Humphreys, S., and L. McBride	*A Review of the Work Carried Out at Sacramento 16, the Bennett Mound*	1966
4178	Jones & Stokes	*Archaeological Survey Report for the North Natomas Drainage System's San Juan Pump Station*	1992
2956	Nadolski, J. A.	*Archaeological Survey Report for the Jibboom Street Bridge Project Sacramento, California*	2001
4435	Nadolski, J. A.	*Archaeological Investigations for the Sacramento-KOVR Diverse Lateral Overbuild in Sacramento and Yolo Counties*	2001
5810	PAR Environmental Services, Inc.	*Northgate Boulevard/Arden-Garden Intersection Cultural Resources Investigation, City of Sacramento, Sacramento County, California*	n.d.
4187	Pastron, A. G., and R. K. Brown	*Historical and Cultural Resource Assessment Proposed Telecommunications Facility Natomas Park, Site No. SA-750-01 2450 Del Paso Road, Sacramento County, California*	2001
173	Peak, A. S.	*American River Parkway An Archaeological Perspective*	1973
2764	Peak & Associates	*Historic Property Survey Report and Finding of No Adverse Effect for the Proposed American River Parkway Bike Trail Improvement Project, City and County of Sacramento, California*	2001
2765	Peak & Associates	*Archaeological Survey Report for the Proposed American River Parkway Bike Trail Improvement Project, City and County of Sacramento, California*	
3469A	Peak & Associates	*Historic American Engineering Record Reclamation District 1000 HAER No. CA-187*	1997
4173	Peak & Associates	*Report on the Archaeological Testing Within the Riverbend Classics Project Area, City of Sacramento, California*	1999
4181	Peak & Associates	*Cultural Resources Overview for the North Natomas Long-Term Planning Area, Sacramento County, California*	4181

Table 2
Previous Cultural Resources Surveys Conducted in the Project Area in Sacramento County

NCIC Report No.	Author(s)	Title	Date
6830	Peak & Associates	*Determination of Eligibility and Effect for the Natomas Panhandle Annexation Project Area Sacramento County, California*	2005
4201	Peak, A. S., H. L. Crew, and R. Gerry	*The 1971 Archaeological Salvage of the Bennett Mound, CA-SAC-16, Sacramento, CA*	1984
4456	Ritchie, M.	*Finding of Effect for the Proposed Safety Improvements and Rehabilitation of the Jibboom Street Bridge on Jibboom Street, Bridge No. 24C-022, Sacramento, Sacramento County, California*	2001
–	Snyder, J.W.	*Historic Property Survey Report (Positive) for the Jibboom Street Bridge Safety Improvements and Rehabilitation Project Jibboom Street, Sacramento County, California*	2003
4441	Sonoma State Anthropological Studies Center	*Archaeological Surface Reconnaissance and Backhoe Testing for the South Natomas Projects (P92-122, P92-160) Sacramento County, California*	
3408	Theodoratus Cultural Research	*Discovery Park Construction Site Examination for Archaeological Resources in the Area of CA-Sac-26*—letter report	1981
4458	True, D. L.	*8-Acre Survey at 1801 Garden Highway, Sacramento, California*	1983
1141	Wilson, K. L.	*Sacramento River Bank Protection Unit 34 Cultural Resources Survey Final Report*	1978

Note: SHPO = State Historic Preservation Officer
Source: North Central Information Center Record Search 2007

Numerous archaeological investigations have covered portions of the Natomas Basin. These have generally focused on areas closest to the rivers and levees. There has been very little archaeological inventory of lands more than 100 feet from the levee toes, and ground surface visibility has frequently been poor even in surveyed areas.

The most comprehensive of these investigations were completed by Dames & Moore and Far Western. In 1994, Dames & Moore (1994b) conducted a broad survey in the Natomas Basin as part of the American River Watershed Investigation. Surveying of selected parcels along the Sacramento River resulted in the identification of 17 primarily historic sites. During the same effort, Dames & Moore visited an additional 10 previously identified cultural resources to update site records for those locations. At the same time, Dames & Moore (1994a) prepared a draft Historic Property Treatment Plan that explored the history and elements of RD 1000. In 1996, Dames & Moore completed its evaluation of RD 1000, concluding that it appeared to be eligible for listing on the NRHP under Criterion A at a state level of significance as an example of reclamation and flood control in the Sacramento River basin during the period 1911–1939. This report extensively documents both the contributing and noncontributing resources of RD 1000. Previously, in 1990, Far Western had conducted surveys of areas along the same route surveyed by Dames & Moore in 1994 (Dames & Moore 1994b), as well as of additional areas (Bouey and Herbert 1990). Far Western (Bouey, Berg, and Hunter 1991) followed up with limited test excavations of two sites that may be within or near the footprint of 2009–2010 project components (borrow areas) that have not yet been fully defined.

Numerous cultural resources were identified in the course of previous survey efforts, including ranches and farms; agricultural, transportation, and reclamation features; and debris scatters, as well as prehistoric occupation and burial sites consisting of mounds or the disturbed remnants of mounds (Tables 3 and 4).

EDAW FIELD SURVEYS

Fieldwork undertaken by EDAW in 2007 focused on the areas that would be affected by project construction in 2008: the NCC south levee, Sacramento River east levee Reaches 1–4B to Station 214+00, the proposed right-of-way of the relocated Elkhorn Canal and the new GGS/Drainage Canal, and potential borrow sites. EDAW conducted pedestrian surveys of those portions of these areas that were accessible; however, only a small proportion of the land area in the potential project footprint for 2008 was accessible to surveys, mainly because of the presence of crops. As access to the unsurveyed lands becomes available, pedestrian surveys will be completed in these areas.

In April/May 2007, an EDAW archaeologist examined the NCC south levee and adjacent lands within the existing maintenance right-of-way. In July/August 2007, a crew of EDAW archaeologists conducted field surveys in accessible parcels within Sacramento County–owned Airport bufferlands north of the Airport. On the Airport bufferlands, the surveys covered a 400-foot-wide strip east of the Sacramento River east levee and small portions of the proposed borrow sites in the Airport north bufferlands. Survey areas within 1,000 feet of the Sacramento River and the locations of prehistoric lakebeds were walked using transects 15 meters apart. Farther from the Sacramento River and prehistoric lakebeds, the transect interval was widened to 30 meters. The potential borrow sites were almost completely inaccessible because they contained rice crops. Exhibit 5 shows those portions of the project area that were surveyed by EDAW in 2007. Areas with poor ground surface visibility (i.e., less than 50%), would require subsequent survey at a time of year when ground surface visibility would be improved.

Two new historic sites, NLIP-1 and NLIP-2, were identified during the surveys adjacent to Garden Highway, and four groups of farm buildings, NLIP-3 through NLIP-6, were also identified and evaluated (Appendix B).

As mentioned above, Randy Yonemura of the Ione Band of the Miwok also showed an EDAW archaeologist the locations of subsurface cultural resources that have not been recorded in any of the previously prepared documentation filed with the NCIC and NEIC, which are known to him from anecdotal information.

IDENTIFIED CULTURAL RESOURCE SITES IN THE SUTTER COUNTY PORTION OF THE PROJECT AREA

Table 3 lists the known cultural resource sites in the Sutter County portion of the project area. Most of the listed sites are in areas proposed for 2009–2010 construction. The sites that may be affected by 2008 construction are shown with an asterisk. The sites listed in Table 3 are described below.

Table 3
Cultural Resources in the Sutter County Portion of the Project Area

Trinomial*	P-No.*	Historic/ Prehistoric	Description	Date Recorded	Quadrangle	NRHP/CRHR Status If Known
CA-SUT-84H*	51-000084	Historic	Natomas Cross Canal/Pleasant Grove Creek Canal levees	1994	Pleasant Grove, Verona	Eligible
	51-000096H*	Historic	1950s-era ranch	2002	Taylor Monument	
NLIP-3*		Historic	Farm Complex	2007	Verona	Not eligible
NLIP-4*		Historic	Farm Complex	2007	Verona	Not eligible
NLIP-5*		Historic	Farm Complex	2007	Verona	Not eligible
NLIP-6*		Historic	Farm Complex	2007	Verona	Not eligible
Barney Mound*		Prehistoric	Intact occupation mound site	not	Verona	Potentially eligible

Notes:
CRHR = California Register of Historic Resources; NRHP = National Register of Historic Places.
* Sites that would be or may be affected by the 2008 construction elements are marked with an asterisk.
Source: Data compiled by EDAW in 2007

CA-SUT-84H (P-51-000084)

This trinomial includes both the NCC south levee and the Pleasant Grove Creek Canal (PGCC) west levee, the northernmost contributing resources to RD 1000. The NCC levee measures approximately 25 feet wide at the top, 75 feet wide at the base, and 15 feet high. The top has been graded and graveled for vehicle traffic. The PGCC levee is smaller, measuring approximately 20 feet wide at the top, 60 feet wide at the base, and 10 feet high. There is also an associated retention basin, constructed of concrete and measuring 50 feet by 35 feet across and 15 feet deep. A concrete and steel pump foundation is located within the basin. Concrete footings running from a hole in the side of the basin to the top of the NCC levee indicate that a large pipe once connected the two features.

Archaeologists reported that the levee (unclear which one) was raised and strengthened twice, after flooding during 1938–1939 and after flooding in RD 1001 during 1955. RD 1000 modified the NCC south levee and its adjacent canals in 1987 and SAFCA modified them in 1996. SAFCA constructed a cutoff wall in the western portion of the NCC south levee in 2007.

P-51-000096H

Located on the Sacramento/Sutter county line and at the edge of a proposed borrow area, this resource consists of a historic ranch complex that includes two residences, four sheds or barns, and a trailer. The archaeological survey crew was not allowed on the property to record the structures in more detail.

NLIP-3, 7240 Garden Highway

The Sutter County Assessor's records currently list this property along the Sacramento River east levee south of Sankey Road as vacant. No construction date is on file for the buildings. The construction methods and materials appear to date to the early 20th century. This property appears to have always functioned as a residential and agricultural complex. The buildings are in good condition but lack the historic associations or architectural distinctions that would make them eligible for listing on the CRHR or NRHP.

NLIP-4, 11000 Garden Highway

This property is near the Sacramento River east levee north of Riego Road. The Sutter County Assessor's records list one of the two residences on the property as being constructed in 1957. The property has been in the Lauppe family since that time. The land, originally listed as Assessor's Parcel Number 35-020-15, was split into separate parcels several years ago as part of a lot-line adjustment. Because of the split, the 35-020-15 parcel number was retired, and additional parcel numbers (35-020-18, 35-020-19) were assigned.

Research did not reveal this property to be significantly associated with an important historic event, and the historic-era building located here is not known to be associated with an individual considered important in local history. The property itself has undergone regular periods of construction over the years, with new buildings added and older structures modified. The buildings lack the historic associations or architectural distinctions that would make them eligible for listing on the CRHR or NRHP.

NLIP-5, Howsley Road at the Natomas Cross Canal

This small complex includes a mid-20th century residence and several turn-of-the-century horse stalls. The buildings are in good condition but lack the historic associations or architectural distinctions that would make them eligible for listing on the CRHR or NRHP.

Source: Aerial by SACOG 2006, Prepared by EDAW in 2007

Survey Coverage Map **Exhibit 5**